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THE TRAINING OF NURSES IN THE CARE OF
SICK CHILDREN¹

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When the pupil nurse comes to the children's ward, in the course of her training, she is quite frequently overheard expressing herself to the effect that she finds everything vastly new and strange, so different from any previous part of the training she may have had. To the head nurse of that department this is quite a satisfactory state of mind for her new pupil; the children's ward is different in many respects, and while the new pupil need not put aside the underlying principles of nursing that she has previously learned, yet she must early be impressed with the idea that the nursing of infants and children differs in many important respects from the nursing of adults.

Since the work is new and strange, it seems advisable to first give the new pupil the care of the older children rather than that of the infants. Then if she keeps her eyes and ears open, by the time she comes to care for the infants some of the newness and strangeness is removed.

The initial examination and entrance of a new patient is of no small importance. The child is admitted to the observation ward and is taken at once to the duty room by the nurse. Here the routine inspection and the cleansing bath are gone through with. In this room the culture and specimen trays are kept at hand. First, the throat is inspected and in all cases except those for removal of tonsils, a culture is made. This is plainly marked and is taken to the laboratory by the nurse and placed in the incubator. Male patients are inspected as to the possible presence of urethral discharge which is not very common but which may be the source of just as much danger as the vaginitis in the female children. All girls are carefully examined and two vaginal smears are made whether or not there is discharge or excoriation.

Stress is laid on the importance of making the smears before the bath is given. The pulse, temperature and respiration are noted, the child is undressed and bathed, observing whether any skin eruptions or desquamation may be present. The entrance weight of all children under two years is taken. The admission specimen of urine is obtained at this time, if possible. For the female infant, a small, kidney-shaped basin is kept right at hand so if it voids during the admission procedure

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the specimen is obtained at once. With the male babies the best method for obtaining the specimen is by attaching the test tube.

All this is very trying to a child who finds itself so suddenly in the hands of a stranger and amid strange surroundings. It requires a vast amount of tact and patience on the part of the nurse to carry it through without one long struggle.

The child is next put to bed in the observation ward, infants under two years of age being placed in one ward, while those varying in age from two to twelve years are placed in another. There is no communication between these wards on account of the possibilities of infection being carried, more especially from the older children to the infants. Ten days is the usual length of time that must elapse before the child is taken from the observation ward to the children's ward proper. The new child is given no food until ordered by the physician, especially if it be an infant, but it may be given water. The nurse in charge of it is urged to be most watchful in her observation since she has only objective symptoms as her guide to the child's condition and ailment. If stools occur they are kept for the doctor's inspection.

Duty rooms and equipment. Of course, in every children's ward there is and always will be the possibility of and danger from the outbreak of infectious diseases, and it would seem that this situation might be bettered greatly by doing away with the large wards. Picture in your mind a children's department where none of the rooms has more than four or six bed capacity, being separated by glass partitions and all opening off the one common hall. Might this not obviate much infection? Each small ward should have its own well equipped duty-room. The tub bath is dispensed with and in its place is used the spray bath. In the absence of the well regulated tank with spray attachment something quite as good but not quite so convenient may be improvised. Over the bath tub two bathing boards may be placed, one at each end and slanting a little towards the center to promote drainage. If the tub is a low one the boards may be built up conveniently high that the nurse's back may be spared. The boards are covered with rubber-covered pads. Instead of the water tank, then, we have an irrigator with the spray attached. After the child has been bathed on the one board it may be placed on the dry one for the remainder of its toilet.

The supply of toilet articles should be at convenient range and should consist of sterile boric solution, olive oil, cotton pledgets, mouth swabs and applicators. The best soap to use is probably the pure castile made up in solution as there is a certain degree of danger in the soap bar that goes from one bath to another. A pair of small blunt-pointed scissors, orange-wood stick in peroxide, and individual combs in addition to the

above will comprise the necessities for ordinary use. The table containing the towels, wash-cloths, and wearing apparel should also be close at hand. The weighing scales are an important accessory. Paper sacks for reception of soiled applicators, pledgets, etc.; receptacles for soiled linen, a separate one being used for napkins soiled with stool, are convenient and desirable.

Daily care of the babies. The babies under two years of age are weighed each morning before the first morning feeding is given. The gains and losses occasion a great deal of interest, since a gain of even a small fraction of an ounce in twenty-four hours gives rise to hope, where the little patient has had repeated losses for some time. Frequently the loss of weight may be general, each baby losing more or less. It has been observed that such a change usually follows a damp, raw day. Then again, following a bright day with clear atmosphere, the babies may all show gain, from which facts the conclusion has been drawn that the babies are influenced by outward conditions. The nurses are taught what relation the bath hour should bear to the giving of diet, although where there are many babies to bathe in one morning it is impossible to observe that rule.

For the bath, the babe is placed on the bathing board, the head and face first receiving attention; soap is not used on the face unless it be for the initial bath. The liquid soap is then applied to the body and the spray is used for the rinsing. Needless to say the babe does not voice his approval as he used to in case of the old-fashioned tubbing. After the drying of the body the baby is laid over on the dry pad and covered while attention is given to the smaller details of his toilet. The eyes are cleansed with sterile boric solution and cotton pledgets, the nostrils with olive oil and applicators, the ears are wiped out with the dry applicator, noting closely whether or not there may be discharge, for frequently the physician will ask about this while trying to account for presence of fever. On the toilet table we have a jar of sterile mouth swabs or large sized applicators, but they are not often used. The baby's mouth is watched, but not washed unless there is indication. The theory is that the mouths that are washed are more likely to become sore than those that are not washed, this being due to the fact that in some parts of the mouth the circulation is very poor. This is especially true at the junction of the hard and soft palate, a place where ulcers easily form. The oil inunctions are not advised, since the oil is supposed to clog the pores. Powders are used only in the creases of the very fat baby.

With the boy babies, the nurse is taught the care of the foreskin, while with the girls she must be ever watchful for discharge, which may mean specific vaginitis. All discharges, either vaginal or eye, are to be

reported at once and smears made of some of them. The garments worn by the baby are few—in the hot days of summer, just the napkin and thin slip, and the baby is left to lie on its crib without so much as a sheet over it. In the winter time, the close fitting knitted cotton shirt is worn and the outing flannel slips are heavier. The bedding is adjusted accordingly and the external heat in the form of hot water bottles is kept at as even a temperature as possible when it is necessary to use them. In order to prevent burning from hot water bottles the water used should not be hotter than 115 ° F. Abdominal bands are not used except for young babies who still require umbilical cord dressings then a sterile soft gauze bandage is used to hold it in place.

After the bath the baby is placed in its clean comfortable bed. The mattress is preferably made of hair and is firm and level, the bedding light and adapted to the indoor temperature. A small feather pillow stands at the head of each crib which to some extent serves as a protection. The babe is not placed on it except for change of position and this is one important point made in the nursing care of hospital babies, so many of them are debilitated and are just in fit condition to develop hypostatic pneumonia unless this point is observed. If the baby is old enough and the doctor approves, it may be allowed to sit up in the corner of its crib surrounded by pillows for a few moments at a time. For older babies who are convalescent and who need to be encouraged to move about, placing them on a thick soft pad on the nursery floor has brought results.

The elimination is an important thing in the care of all sick children especially when it comes to the examination of the infant's stool. Unless the nurse knows specifically what a certain stool means and how to describe it, her records are of little help to the physician. This is found to be one of the long-drawn-out lessons of the children's ward. The nurse must first be taught what is normal for the normal breast-fed infant in order to make the proper comparisons. She should know that the breast-fed baby normally has two stools a day while the artificially fed baby but one. Often, when a nurse has occasion to describe the infant's stool for the first time she has no idea how to describe what she sees before her.

It is necessary to emphasize the significance of the frequency, color, odor, consistency of the stool, and the fact that mucus in the form of balls is the result of peristaltic action while if it is stringy it comes from the colon; that blood mixed with stool is due to ulceration at some point in the intestine, while blood on the surface indicates a hard stool and may be caused by erosion just above or at the sphincter. Curds of different types mean different things; those from fat being white, granular,

sand-like masses, or soft, yellow, flocculent masses; those caused by too much protein are large, smooth, bean-like masses. It is interesting to know that these protein curds will disappear if the milk is boiled, while if they should accumulate in the baby's intestines they may cause obstruction. Colonic flushings of normal saline are given the babies only for the relief of colic or distension. If no stool has occurred in twenty-four hours the long glycerine suppositories are used.

From very sick babies all stools are kept for the doctor's inspection while from those less ill one specimen daily is enough. It would seem that the best way to preserve these specimens might be in a paraffin envelope thus keeping the air out and the odor in. The label on the outside should bear the name of the patient and the hour at which the stool was passed.

Early in her children's training, the nurse needs to learn that a baby has a nervous system; that it is just as sensitive to jolts and jars as some one who is able to say it in so many words; that when it is carried the spine and head should be firmly supported; that when sick it has aches and pains and a sore body the same as older people and should be handled accordingly; that a crying baby may be quieted by being held close and talked to soothingly, while the older child will often call for one particular nurse who has shown it real sympathy and kindness.

Catherization of the young female infant is sometimes ordered where the sterile specimen is desired, in order to aid in making the diagnosis of cystitis. This infection is caused by the colon bacillus and is quite common in girl babies but rare in little boys. For the catherization the smallest size rubber catheter is used.

In sponging and packing babies for temperature the nurse needs to be reminded that she is dealing with a little individual whose body heat is readily influenced and too vigorous treatment may result in a drop in temperature that might prove quite a shock to the child's nervous system.

Diets. The nurse's work in the milk laboratory where she learns the preparation of the baby foods is probably to most nurses quite as interesting as any part of her children's training. Here she spends two weeks and that, preferably, before she has the daily care of the babies. She thereby, more readily appreciates what is being done for them, since the majority of hospital babies are the so-called feeding cases. In the milk laboratory the keynotes are cleanliness and accuracy. The diet, the preparation of which consumes quite the most of the nurse's time and attention is Eiweiss-milch, or albumen-milk. The painstaking nurse probably does not breathe quite freely until the curds have been put through the three sieves and come out quite as fine as she would wish. Some plain whole milk dilutions are prepared. Some diets are of fat-free milk, some of buttermilk, others of gelatin water and the fat-free

curds. Not the least important on the list is the breast milk of which from 54 to 64 ounces daily may be supplied by a healthy young wet-nurse. The nurse is surprised to learn that breast milk may be boiled without materially changing its properties, in case the wet-nurse has cold or sore throat and the milk is a possible source of infection to the babies. The presence of the wet-nurse in the children's ward is really of considerable advantage outside of supplying the breast milk. The nurses learn the real value of breast milk feeding in comparison with other diets and, too, her infant which is normal and well may be studied in comparison with the abnormal and underfed child.

The babies are fed on the four-hour interval during the day and four or six hour interval at night according to the age of the child. Except when the baby is old enough and strong enough to hold its own bottle, it is held by the nurse. The custom of propping the bottle up and leaving the babe to get its diet as best it can is not to be tolerated. Water is given freely between diets.

Where it is necessary to force the feeding, it is given by gavage, the undesirable feature about this being the great tendency to give the food too rapidly. It should take a baby ten minutes to empty its bottle and it should not take less than seven or eight minutes to feed it through the tube.

In cases of persistent vomiting, the doctor may order gastric lavage and excellent results are obtained therefrom.

Test meals of barley water and saccharin are given to compare the stomach conditions of the normal and the abnormal infants. Bismuth and buttermilk are given the baby to aid in making diagnosis of pyloric obstruction under the x-ray. Babies operated upon for relief of such condition are given breast milk four hours after operation. The use of continuous saline per rectum has been employed where intoxication was great.

In a recent *Journal of the American Medical Association*, Dr. Hess of New York, describes the method by which the saline is given by mouth. The apparatus described is similar to the one used in the Murphy drip method, except that instead of attaching the rubber tip at the end, the rubber nipple is attached. The solution is first allowed to run until the nipple is full then by the aid of the stop-cock the flow is regulated to twenty-five or thirty drops per minute. We know that the fluids taken into the upper intestinal tract are more readily absorbed, and in acute enteritis, the irritation in the bowel is so marked, the nozzle is not well retained and often the diarrhoea is increased. Dr. Hess says in his article,

It may be urged that keeping the rubber nipple in the mouth encourages formation of a bad habit. This criticism should not be credited in consideration of the treatment of disease involving mortality so high as that of enteritis. In the light of recent studies of metabolism demonstrating the marked difference between expenditure of energy in infants that are quiet and in those that are restless it is indeed questionable whether this procedure does not possess added advantage through its quieting effect and thus the conservation of calories which it accomplishes in this way. The mouth drip is brought forward not with the idea of presenting a novel device but merely as a simple method of facilitating the ingestion of large amount of fluids more especially in the alimentary conditions.

By this method a baby could be given a quart of water in twenty-four hours and to give the same amount by teaspoon or even from the bottle would certainly require a great deal of time which makes the method a special advantage in the hospital ward where the infant cannot have so much individual attention.

If to some it seems that these remarks are directed more especially to the care of infants, it is not for lack of problems concerning older children. There are many details, easily overlooked, to which the careful nurse must give attention and thought.

The little boy with the fractured femur, who wears an extension, must be watched that his toes point upward and that his weights pull properly so that the fracture may unite perfectly. The little girl with Pott's disease who lies strapped to a Bradford frame is not to be taken to the duty room for her bath, but as she lies on the frame she may be turned on the side, the straps loosened and the frame withdrawn just enough to allow of the bath being given. The frame is then at once replaced against her body, straps readjusted and she is once more turned on her back. Dr. Ridlon teaches that a Pott's disease should be treated just the same as a fracture.

It is found that nurses often overestimate the strength of the convalescent child, allowing it to follow its own inclination, forgetting that she should be the judge of what is best for it. Strange to say it is difficult at times to keep children out of doors. Here tact and persuasion are required to carry out the light out-door exercise the doctor may have prescribed for the child. The attractive playroom with a nurse or capable attendant ever present, or better still the kindergarten teacher, is a most valuable adjunct to the children's ward.

Czerny, a noted child's specialist says, "Each infant is a law unto itself and must be treated as such," this perhaps refers more especially to the feeding care. Every child undoubtedly has a language of its own and its own little ways. Therefore it is important to study and consider each individual child if the nursing is to reach the point of success.